



# DECUS

## PROGRAM LIBRARY

DECUS NO.	8-543
TITLE	TS8REV - REVERSE ASSEMBLER FOR TSS/8
AUTHOR	William Harts
COMPANY	Dix Hills, New York
DATE	May 21, 1972
SOURCE LANGUAGE	PAL-D

Although this program has been tested by the contributor, no warranty, express or implied, is made by the contributor, Digital Equipment Computer Users Society or Digital Equipment Corporation as to the accuracy or functioning of the program or related program material, and no responsibility is assumed by these parties in connection therewith.

DECUS

PICORAN LIBRARY



1944-1945

1946-1947

1948-1949

1950-1951

1952-1953

1954-1955



TS8REV - REVERSE ASSEMBLER FOR TSS/8

DECUS Program Library Write-up

DECUS NO. 8-543

```
1
2
3
4
5
6      *****      TS8REV      *****
7
8
10     REVERSE ASSEMBLER
20     FOR TSS/8
25
26
27
40     BILL HARTS
45
46
47
48
49
80     ***      BACKGROUND      ***
85
100    THIS PROGRAM IS AN ADAPTATION OF DECUS 8-178 THAT HAS BEEN
110 MODIFIED TO RUN ON A TSS/8 COMPUTER. ALL REGULAR TSS INSTRUCTIONS
130 HAVE BEEN CHANGED TO USE THE SAS COMMAND. THE PROGRAM CAN ONLY
140 ACCEPT TAPES FROM THE HIGH SPEED READER FOR THE SIMPLE REASON THAT
150 TSS/8 MONITOR CANNOT DISTINGUISH BETWEEN THE KEYBOARD AND THE LOW
160 SPEED READER AND IF THE TAPE CONTAINS ANY CODE 2'S (CHANNEL 2 IS
170 PUNCHED) , MONITOR WILL INTERPRET THIS AS A CONTROL B (1B)
180 AND WILL USUALLY HALT THE PROGRAM. INPUT TAPES ARE USUALLY IN
190 BINARY FORMAT, BUT THE ASSEMBLER CAN ACCEPT TSS/8 SAVE FORMAT.
200 TAPES ALTHOUGH NO ADDRESSES WILL BE PRINTED, AND THE LOCATION
210 COUNTER WILL RESET TO ZERO AT THE END OF EACH PAGE. THE PROGRAM CAN
220 ACCEPT RIM FORMAT TAPES AS INPUT, BUT AN ORIGIN SETTING WILL BE
230 PRINTED ON EVERY OTHER LINE.
231    MOST REGULAR TSS/8 IOTS HAVE BEEN ENTERED INTO THE
232 PROGRAM'S PERMANENT SYMBOL TABLE.
233
234
235
```



240 \*\*\* USAGE \*\*\*  
 245 TO USE THIS PROGRAM, THE USER MUST FIRST DETERMINE WHETHER OR  
 250 NOT THE TAPE THAT IS BEING DISASSEMBLED CONTAINS FLOATING POINT  
 255 INSTRUCTIONS. IF THIS IS SO, THEN TYPE (IN MONITOR MODE) ,  
 260 .'SWITCH 400'.  
 270 THIS INSTRUCTION ACTIVATES THE FLOATING POINT MECHANISM WITHIN THE  
 275 PROGRAM. IF THE USER NEEDS A SYMBOLIC TAPE THAT IS ACCEPTABLE TO  
 280 TSS/8 EDITOR, THE USER TYPES,  
 285 .'SWITCH 4000'.  
 290 ANY COMBINATIONS OF THESE TWO SWITCH REGISTER SETTINGS MAY BE USED,  
 300 (I.E. SWITCH 4400 WOULD PRODUCE AN OUTPUT TAPE OF A PROGRAM THAT  
 310 CONTAINED FLOATING POINT INSTRUCTIONS.)  
 320 IT IS IMPERATIVE THAT IF THE USER DOES NOT REQUIRE THESE OPTIONS,  
 330 HE MUST RESET HIS SWITCH REGISTER TO 0000 (SWITCH 0) .

340  
 350 HERE IS A LIST OF THE SWITCH REGISTER BIT OPTIONS:

351  
 352  
 353  
 354 -----  
 355 BIT  
 356 0 1 3  
 357 BINARY 1- SYMBOLIC FLOATING POINT  
 358 OUTPUT TAPE. INSTRUCTIONS ENABLED.  
 359 -----

360  
 370  
 380 ONCE THE APPROPRIATE BIT SETTINGS HAVE BEEN MADE, THE USER  
 385 MUST TYPE (IN MONITOR MODE), ASSIGN R TO MAKE SURE THAT THE READER  
 390 IS AVAILABLE. IF MONITOR RESPONDS R ASSIGNED YOU MAY PROCEED WITH  
 400 THE PROGRAM, OTHERWISE, WAIT UNTIL THE READER IS AVAILABLE.  
 410 ONCE THE READER IS ASSIGNED, THE USER PLACES HIS TAPE IN IT  
 420 WITH THE CODE 200'S OVER THE PHOTOCELLS. ONCE HE HAS RETURNED TO  
 430 HIS TELETYPE, THE USER NOW TYPES 'RUN TSSREV' BUT DOES NOT PRESS  
 440 THE RETURN KEY. IF THE SWITCH REGISTER HAS BEEN SET TO PRODUCE AN  
 450 OUTPUT TAPE, THE LOW SPEED PUNCH IS NOW TURNED ON AT THIS POINT,  
 460 AND THE CARRIAGE RETURN KEY IS STRUCK. THE PROGRAM WILL PRODUCE  
 470 LEADER TAPE AND PUNCH THE PROGRAM. IF THE SWITCH REGISTER HAS NOT  
 480 BEEN SET FOR AN OUTPUT TAPE, THE USER JUST TYPES THE RETURN KEY.  
 490 IF THE READER MISSES A CHARACTER (WHICH IS VERY RARE) OR IF THE  
 500 TAPE HAS AN ERROR IN IT, THE PROGRAM TYPES 'READER ERROR' AND  
 510 HALTS.

511  
 512  
 513  
 514

515 \*\*\* LIMITATIONS \*\*\*

516  
 520 THE ONLY LIMITATION THAT HAS OCCURED WITH THIS PROGRAM THUS  
 530 FAR IS THAT OF OUTPUT FORMATTING. SINCE A CHARACTER BUFFER  
 540 CONSISTING OF 7 LOCATIONS IS USED FOR OUTPUT, IT IS POSSIBLE FOR  
 550 UP TO SIX CHARACTERS NOT TO BE PRINTED AT THE END OF THE PRINTOUT.



# ADDENDUM TO DECUS NO. 8-543

13 February 1974

Digital Equipment Corp.  
Maynard, MASS 01754

ATTN: Angela J. Cossette, DECUS

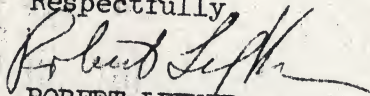
Dear Editor:

I have made some minor modifications to DECUS 8-543 (TSREV-Reverse Assemble for TSS/8) to allow somewhat better readability. The location counter resets at every page boundary when reverse assembling SAVE tapes. The location counter should read the absolute location for SAVE tapes as well as BIN tapes, not the relative location to the last setting of the location counter. In addition, the standard EDIT convention for a zero ( $\phi$ ) page reference is "Z" not a " $\phi$ ". In this respect I would like to submit the following modifications to TSREV.

<u>Change</u>	<u>From</u>	<u>To</u>
0176	0000	0332
0322	4517	4516
0324	1076	7000
0325	1161	7000
0326	7710	7000
0327	7410	7000
0330	3076	7000
0360	4517	4516
0362	1076	7000
0363	1161	7000
0364	7710	7000
0365	7410	7000
0366	3076	7000
0530	1147	1176
0552	1076	7000
0553	0154	7000
0554	3076	7000

These changes will cause a 4 digit absolute address to be printed which is started by the reset location counter ~~on~~ the BIN tape or will print 4 digit absolute address starting from  $\phi$  (zero) for the SAVE tapes.

Respectfully,



ROBERT LEEKER

AMSEL-TL-ECP

U. S. GOVT

Fort Monmouth, New Jersey 07703

